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Intracellular redistribution of Ku immunoreactivity in response to cell-cell contact and growth modulating components in the medium 1937-1946

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Changes in expression of monoclonal antibody epitopes on laminin-5r induced by cell contact 1965-1973

Nilsson, T., Rabouille, C., Hui, N., Watson, R. and Warren, G.
The role of the membrane-spanning domain and stalk region of *N*-acetylglucosaminyltransferase I in retention, kin recognition and structural maintenance of the Golgi apparatus in HeLa cells 1975-1989

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